

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

Please cancel claims 10 and 11 without prejudice.

Listing of claims:

1. (Currently amended) A node configured for communications at multiple levels of security, comprising:

a plurality of seedable code generators, wherein each code generator is configured to generate a different set of codes;

a plurality of CDMA encoders respectively coupled to the code generators, wherein each CDMA encoder encodes input data using the set of codes generated by the coupled code generator;

a plurality of CDMA decoders respectively coupled to each code generator, wherein each CDMA decoder decodes input data using the set of codes generated by the coupled code generator;

a node controller coupled to the plurality of encoders, decoders, and code generators, the controller arranged to provide respective input seeds to the code generators, and to provide respective sets of codes from the code generators to paired encoders and decoders;

wherein the controller is further configured to initialize the code generators with respective first seeds and reset each code generator with respective second seeds; and

an interconnect interface coupled to the plurality of encoders and decoders, the interconnect interface arranged to combine encoded data from the encoders into an output signal and transmit the output signal, and for an input signal received by the interconnect interface provide the input signal to each decoder;

wherein each of the plurality of decoders includes an associated set of sub-decoders having respective input ports arranged to receive input encoded data and respective output ports arranged to output decoded data values; and

the controller includes,

a first cipher translation table having a first input port coupled to one of the plurality of code generators, a second input port arranged to receive an input

data value, and an output port coupled to one of the plurality of encoders, the first cipher translation table configured with data values and associated random codes generated by the one code generator, wherein the first cipher translation table outputs the random code associated with and responsive to an input data value; and

_____ a second cipher translation table configured with data values and associated random codes identical to the first cipher translation table, the second cipher translation table including a first input port arranged to receive an input data value, wherein the second cipher translation table outputs the random code associated with and responsive to an input data value via a first output port and provides the each random code to a respective one of the sub-decoders;

_____ data selection logic having a first plurality of input ports coupled to the sub-decoders, a second plurality of input ports arranged to receive respective random codes from the second cipher translation table, a code input port coupled to the first output port of the second cipher translation table, and an output port arranged to output a selected decoded data value, wherein the selection logic is arranged to select one of the decoded data values responsive to a match of an associated random code used by a sub-decoder in generating the decoded data value and a random code received on the code input port from the second cipher translation table upon input of the decoded data value at the first input port; and

_____ wherein the controller maintains the first and second cipher translation tables as first-in-first-out (FIFO) buffers of random codes.

2. (Cancelled)

3. (Previously presented) The node of claim 1, wherein the controller is further configured to reset a code generator with a second seed responsive to receipt of the second seed via the interconnect interface and the decoder coupled to the code generator.

4. (Previously presented) The node of claim 1, wherein the controller is further configured to provide a second seed to an encoder for encoding with a previous seed and reset the code generator coupled to the encoder with the second seed.
5. (Original) The node of claim 1, wherein the interconnect interface is compatible with a ring interconnect.
6. (Original) The node of claim 1, wherein the interconnect interface is compatible with a bus interconnect.
7. (Previously presented) The node of claim 1, wherein the interconnect interface is compatible with a star interconnect.
8. (Original) The node of claim 1, wherein the interconnect interface is compatible with a radio-frequency interconnect.
9. (Original) The node of claim 1, wherein the interconnect interface is compatible with a free-space optical interconnect.
10. (Cancelled)
11. (Cancelled)
12. (Currently amended) A communications arrangement, comprising:
a plurality of nodes, each node having at least one seedable code generator and at least one node having a plurality of seedable code generators, wherein the code generators of a node are configured to generate different codes, and each code generator of a node has a corresponding code generator in at least one of the other nodes, and corresponding code generators generate equal codes;

each node having a respective CDMA encoder coupled to each code generator of the node, wherein each CDMA encoder encodes input data using the code generated by the coupled code generator;

each node having a respective CDMA decoder coupled to each code generator of the node, wherein each CDMA decoder decodes input data using the code generated by the coupled code generator;

each node having a respective node controller coupled to each encoder, each decoder, and each code generator of the node, the controller configured and arranged to provide an input seed to each code generator, and provide a code from each code generator to an encoder and to a decoder;

wherein each controller is further configured to initialize the coupled code generators with respective first seeds and reset each code generator with respective second seeds; and

each node having a respective interconnect interface coupled to each encoder and decoder of the node, wherein the interconnect interface is configured to combine encoded data from each encoder into an output signal and transmit the output signal, and for an input signal received by the interconnect interface provide the input signal to each decoder of the node;

wherein each of the plurality of decoders includes an associated set of sub-decoders having respective input ports arranged to receive input encoded data and respective output ports arranged to output decoded data values; and

each controller including,

a first cipher translation table having a first input port coupled to one of the code generators of a node, a second input port arranged to receive an input data value, and an output port coupled to one of the encoders of the node, the first cipher translation table configured with data values and associated random codes generated by the one code generator, wherein the first cipher translation table outputs the random code associated with and responsive to an input data value; and

a second cipher translation table configured with data values and associated random codes identical to the first cipher translation table, the second

cipher translation table including a first input port arranged to receive an input data value, wherein the second cipher translation table outputs the random code associated with and responsive to an input data value via a first output port and provides the each random code to a respective one of the sub-decoders; and
data selection logic having a first plurality of input ports coupled to the sub-decoders, a second plurality of input ports arranged to receive respective random codes from the second cipher translation table, a code input port coupled to the first output port of the second cipher translation table, and an output port arranged to output a selected decoded data value, wherein the selection logic is arranged to select one of the decoded data values responsive to a match of an associated random code used by a sub-decoder in generating the decoded data value and a random code received on the code input port from the second cipher translation table upon input of the decoded data value at the first input port;
wherein the controller maintains the first and second cipher translation tables as first-in-first-out (FIFO) buffers of random codes.

13. – 18. (Cancelled)

19. (Currently amended) A multi-level security communications arrangement for a processing node, comprising:

means for generating a plurality of different sets of codes for respective initial seeds;

a plurality of CDMA encoders, wherein each CDMA encoder encodes input data using a respective one of the plurality of sets of codes;

a plurality of CDMA decoders, wherein each CDMA decoder decodes input data using a respective one of the plurality of sets of codes;

means for providing identical seeds to a paired encoder and decoder;

means for combining encoded data from each encoder into an output signal and transmitting the output signal;

means for providing a received input signal to each decoder; and

means, responsive to a re-initialization event, for providing new identical seeds to each paired encoder and decoder;

wherein each of the plurality of decoders includes an associated set of sub-decoders having respective input ports arranged to receive input encoded data and respective output ports arranged to output decoded data values; and

a first cipher translation table having a first input port for receiving a set of codes, a second input port arranged to receive an input data value, and an output port coupled to one of the plurality of encoders, the first cipher translation table configured with data values and a set of associated codes, wherein the first cipher translation table outputs the code associated with and responsive to an input data value; and

a second cipher translation table configured with data values and an associated set of codes identical to the first cipher translation table, the second cipher translation table including a first input port arranged to receive an input data value, wherein the second cipher translation table outputs the random code associated with and responsive to an input data value via a first output port and provides the each random code to a respective one of the sub-decoders;

data selection logic having a first plurality of input ports coupled to the sub-decoders, a second plurality of input ports arranged to receive respective codes from the second cipher translation table, a code input port coupled to the first output port of the second cipher translation table, and an output port arranged to output a selected decoded data value, wherein the selection logic is arranged to select one of the decoded data values responsive to a match of an associated code used by a sub-decoder in generating the decoded data value and a code received on the code input port from the second cipher translation table upon input of the decoded data value at the first input port; and

means for storing newly generated codes in the first and second cipher translation tables in first-in-first-out (FIFO) order.